



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D5799-1

Job Sheet 207425



Part No: D5799-1

Job Qty: 4 pcs

Part Name: Short Handle

Part Weight: 0 lbs

Job Created: 2/26/20

Due Date: 3/6/20

Type: Stock

Status: New

Job Tracking No:

Created By: Jennifer Renwick

Description:

Note: URF 2020-525 DWG 5799 REV.A IPP REV:A NEW ISSUE 20.01.15 JV VERF:DD

Ship Via:

EFFECTIVE _____ AUTH _____

RELEASED _____ DATE _____
Priority: Medium

Placed by M. J. Steike
20.02.25

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Hrs	Run Hrs	Workcenter/Supplier	Lead Time	Sign-off
100	Large Fab - Welded Assy-1	4 pcs	3/6/20		0.00	0.16	Large Fab - 1		
							Large Fab - 10		
							Large Fab - 2		
							Large Fab - 3		
							Large Fab - 4		
							Large Fab - 5		
							Large Fab - 6		
							Large Fab - 7		
							Large Fab - 8		
							Large Fab - 9		
							Large Fab - 11 (Various)		
							Large Fab - 12		
110	QC 5	4 pcs	3/6/20		0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		



Container No: S260365



Part: D5799-1

Job No: 207425

Serial No/Batch: S260365

Revision: REV.A

Inspector:

Exp Date:

Instructions:

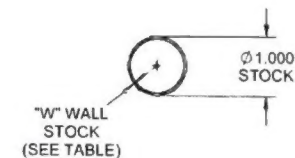
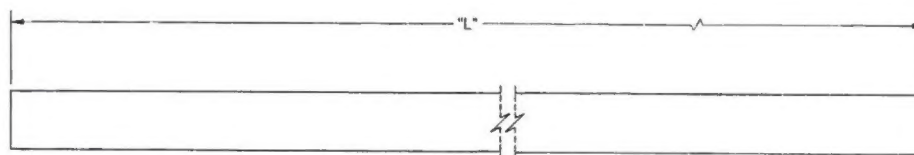
Date: 03/03/20

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 2/26/20 9:58 AM Dart.lajeunesse.marie

120	Packaging 3-1 - Stock - B4B	4 pcs	3/6/20	0.00 0.00	Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	MAC
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
					Packaging 3 - 37 - B4B	
130	QC 21 - SA	4 pcs	3/6/20	0.00 0.00	QC 21 - SA - 21	DAS
					QC 21 - SA - 70	21 MAR 04 2020
					QC 21 - SA - 53	3-88
Part Op 100 - 1- Cut to length 21.33" as per D5799 dwg 2- Debur Descriptions: 110 - QC5- Inspect part completeness to step on W/O 120 - Identify as per dwg & Stock Location: <u>W/A004</u> 130 - QC21- Final Inspection - Work Order Release						
Job BOM						
Part / Item	Component Name	Quantity	Operation	Container		
M304TR1.000W.035	304 Seamless Round Tubing 1.000 X .035W	7.1500 ft (1.7875 ea)	100-Large Fab - Welded Assy-1	S 259978		
Job Allocations						
Operation	Component Part	Required	Inventory	Allocated		
100-Large Fab - Welded Assy-1	M304TR1.000W.035	7	0	0		
Part Specifications						
Specifications could not be found.						

P/N	DESCRIPTION	"L"	"W"	WEIGHT (lbs)
D5799-1	SHORT HANDLE	21.33	0.035	0.65
D5799-3	MEDIUM HANDLE	40.33	0.065	2.20
D5799-5	LONG HANDLE	58.83	0.065	3.21



D5799-Y HANDLE
(DERIVED FROM AERO DESIGN P/N 36277-01)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 207425 MJS
20-02-26

UNDER REVIEW
URF 2020-525 20.02.20 (NO)

NOTES:

- 1) MATERIAL: 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING, 1.00 OD X "W" WALL (SEE TABLE)
PER ASTM A213 OR ASME SA213 OR ASTM A269
REF DART SPEC M304TR
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE TABLE

RELEASED

2020 FEB 19 *q*

APPROVED

DESIGN	ZF	DART AEROSPACE LTD	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	DRAWING NO.	REV. A
MFG. APPR.	DD	D5799	SHEET 2 OF 4
APPROVED	NO	TITLE	SCALE
DE APPR.	CP <i>q</i>	HANDLE	NTS
DATE	20.01.10	<small>COPYRIGHT © 2020 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

2/21/2020

5259978

PURCHASE ORDER



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB045910**



Supplier: MES002-VC
Metaux Solutions
2625 boul Jacques-Cartier Est
Longueuil
QC
J4N 1L7 Canada
Phone: 800 558 8858
Fax: 514 633 8044

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045910**PO Date:** 2/20/20**Due Date:** 2/28/20**Purchase Order****Revision:****Revision Date:****Issued By:**

Lavole, Chantal
Phone: 613-623-5200 Ext: 242
Fax: 613-632-1053
clavoie@dartaero.com

Via:

Ground

Pymt Terms:

Net 60

Freight Terms:**Special Comments:**

FEB 21 2020

REVISED

Items

Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		M304TR1.000W.035			304 Seamless Round Tubing 1.000 X .035W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269	Firmed	-	2/28/20	40 ft	0 ft	40 ft	\$10.85/ft	\$434.00
2		MBRONZR0.375		3" per pcs	Bronze Rod 0.375" : MATERIAL: OIL IMPREGNATED SINTERED BRONZE ROUND BAR AS PER SAE 841 TYPE 1, CLASS A OR AMS 4805 OR ASTM B438 GRADE 1, TYPE 2 OR MIL-B-5687D TYPE 1, GRADE 1	Firmed	-	2/28/20	1 ft	0 ft	1 ft	\$93.20/ft	\$93.20

Line Item Note 4 pcs of 3" = 1ft

Grand Total: \$527.20

Plex 2/21/20 10:20 AM Dart.Lavoie.Chantal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
POHB045910



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program.

A049 supplier awareness.

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 2/21/20 10:20 AM Dart.Lavoie.Chantal

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7 Tel.: 450 641-3330

Shipping Order 27/02/2020

Order : 150542
Reference : POHB045910
Ship : PICK UP / PICK UP

Customer: 6323336

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Ship To

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
SST10356	SS TUB 1.000 X .035 316 SMLS 2 X 20' ***** HT:hdj18-322	40	40	φ
OLB38	OILITE BRONZE 3/8 DIA. X 3" 4 PCES ***** HT: KS005674356	4	4	φ
	SHIP JOURNEY COLLECT JP			

RECEIVED
MAR 02 2020
DART AEROSPACE LTD.

Shipping : _____ Ref. : _____
Package No : _____
Merchandise Received: _____

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M 304TR21.002W.035

PO / BATCH NO.: PortB 045910

DATE: 2020-03-02

5259978

MATERIAL CERT REC'D: YES

THICKNESS ORDERED: Ø 1.00 w. 075

QUANTITY RECEIVED: 40 FT

THICKNESS RECEIVED: 61.000 W. 035

QUANTITY INSPECTED: 40 FT

SHEET SIZE ORDERED: _____

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	ASTM A213
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	HT HJD18-322
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: _____

SIGNED OFF BY: _____

DATE: 2020-03-02

DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

L1N8 1

M304TR1.000W.035

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING

SPECIFICATION: ASTM A213 OR ASME SA213 OR ASTM A269

WALL THICKNESS TOLERANCE PER ASTM A269 AS FOLLOWS:

OD (IN)	PERMISSABLE OD TOL. (IN)	PERMISSABLE WALL TOL.
UP TO 1/2	±0.005	±15%
1/2 TO 1 1/2, EXCL.	±0.005	±10%
1 1/2 TO 3 1/2, EXCL.	±0.010	±10%
3 1/2 TO 5 1/2, EXCL.	±0.015	±10%
5 1/2 TO 8, EXCL.	±0.030	±10%

DAS
82
9-89

PART NUMBER: M304TR1.000W.035

WHERE "D.000" = OUTSIDE DIAMETER IN INCHES
AND ".TTT" = WALL THICKNESS IN INCHES

EG. 0.375" OD X 0.065" WALL TUBING = M304TR0.375W.065

RELEASED
09/12/2013

B	REFORMAT DWG, ADD SPECS (ZN D6-1), REF PAR 08-020A	CP	08.10.20
A	NEW ISSUE	DS	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN		DRAWING NO.	REV. B
CHECKED		M304TR	SHEET 1 OF 1
MFG. APPR.		TITLE	SCALE
APPROVED		304/316 ROUND TUBING	NTS
DE APPR.		COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND CONTAINS NO INFORMATION OF A NATURE THAT WOULD BE DAMAGING TO THE NATIONAL DEFENSE IF DISCLOSED. IT IS RELEASED FOR PUBLIC USE. THE COPYRIGHT IS REMAINTAINED BY DART AEROSPACE LTD.	
DATE	08.10.20		

MILL TEST CERTIFICATE

Inspection Certificate EN10204:2004/3.1

SANFIT METAL INDUSTRY CO.,LTD.

No.27,Lin 1,East West 8 Rd, Hsi An Tsun, Ta-An Hsiang, Taichung Hsien, Taiwan

TEL:886-4-26885782 FAX:886-4-26885769

Description of Goods: 316/316L seamless tube

SIZE: 1" od x .035" wall SMLS tube

Quantity: 50 PCS

Specification: ASTM A213/249/269

Material Type: T316L

Heat No.: Hdj18-322

Invoice No.:

Order No. #2454

Date: Jul.30.201

DAS
82
9-89

Chemical Composition per Raw Material										
	C	Si	Mn	P	S	Ni	Cr	Mo	N	Cu
min						9.0	17.0	2.0		
max	0.03	1.50	1.5	0.040	0.040	13.0	21.0	3.0		
	0.026	0.394	0.698	0.035	0.011	9.12	17.13	2.07	-	-

Mechanical Test per Raw Material				
	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (HB)
min	485	205	30	
max				95
	569	252	52	-

This is to certify that the material furnished on this order complies in all respects with the specifications indicated in description.



Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Cross tube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> </div> <div> Eng. (Non-AW) <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Water Jet <input type="checkbox"/> Supplier <input type="checkbox"/> Quality <input type="checkbox"/> </div> </div>			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause <div style="display: flex;"> <div style="flex: 1;"> Operator <input type="checkbox"/> Manufacturing Process <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Handling/Presservation <input type="checkbox"/> Material <input type="checkbox"/> Product Improvement <input type="checkbox"/> Process Improvement <input type="checkbox"/> Human Factors <input type="checkbox"/> </div> <div style="flex: 1;"> <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Bending <input type="checkbox"/> Crushing <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Mislabeled </div> </div>		FAULT CATEGORY <div style="display: flex;"> <div style="flex: 1;"> <input type="checkbox"/> Contamination <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Incomplete/Unclear Instructions <input type="checkbox"/> Drill Holes <input type="checkbox"/> Fit/Function </div> <div style="flex: 1;"> <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain Direction <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Off-set/Set-up </div> <div style="flex: 1;"> <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Outside Tolerance <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Misread </div> </div>			
Other/Details:					